

REMARKS

Favorable reconsideration of the present application is respectfully requested.

Claims 3, 4 and 5 have been cancelled, and the subject matter thereof has been incorporated into Claim 1. New Claim 15 comprises a "means plus function" claim directed to subject matter taken from cancelled Claim 5. Claims 1 and 15 are believed to be generic claims, and so it is respectfully requested that Claims 2, 7 and 10 be included in any patent issuing from the present application.

The presently claimed invention is directed to a mask which generates heat by an exothermic oxidation type chemical reaction. An oxidation type chemical reaction is advantageous because of the ready availability of atmospheric oxygen. For example, an iron powder produces an exothermic reaction described on page 9 of the specification. The resulting moist heat is effective in minimizing the effects of certain respiratory ailments.

Original Claim 5 had recited that the heat generating unit of the mask comprises an exothermic composition containing a metal powder, salt and water, which raises steam in conjunction with oxidation reaction of the metal powder. Claim 5 had been rejected under 35 U.S.C. § 103 as being obvious over the U.S. patent to Daneshvar in view of the U.S. patent to Potter et al. The Examiner there recognized that Daneshvar, while it discloses a therapeutic nasal inhaler, lacks a teaching of generating heat using an exothermic chemical reaction. The Examiner therefore relied upon Potter et al to teach an apparatus including a heat generating unit relying upon an exothermic chemical reaction. Accordingly, any teaching in these references for an exothermic **oxidation** reaction, should it be present, must be found in Potter et al.

In fact, Potter et al has no such teaching. Instead, **Potter et al positively teaches against an oxidation reaction.**

Potter et al has an object to provide a drug delivery article “which employs a relatively low temperature heat source to volatilize a drug for delivery (column 1, lines 5-7). In an effort to assure that the heat source will be a low temperature heat source, Potter et al proposes a drug delivery article “which utilizes non-combustion energy” (column 1, line 57; see also column 1, lines 62-65). According to Potter et al, the heat source includes at least one chemical agent “which is capable of interacting exothermally with a second chemical agent upon contact. . . . Preferably, the chemical agents do not require environmental (i.e., atmospheric) oxygen to generate heat” (column 2, lines 13-20). Instead, heat is generated by hydrogenation, e.g., hydrogenation of magnesium sulfate (column 2, lines 56-57). Potter et al specifically teaches that:

Heat sources of the articles of the present invention generate heat as a result of one or more exothermic chemical reactions between components thereof, *and not as a result of combustion of the components thereof*. As used herein, the term “combustion” relates to the oxidation of a substance to yield heat and oxides of carbon. (col. 5, lines 27-33; emphasis added).

Thus, the teaching of Potter et al is to generate heat in a drug delivery article, but without combustion and without the need for environmental oxygen (column 5, lines 35-38), i.e., “by a process which does not involve combustion or oxidation, but instead involves hydration.” Accordingly, Potter et al could be relied upon to teach those skilled in the art the desirability of using an exothermic chemical reaction to generate heat in Daneshvar, *but would also be explicitly taught that the exothermic chemical reaction should not be an oxidation reaction*. In addition, it is noted that the claims recite a heat generating unit which releases steam. There is no evidence that the low temperature heat source of Potter et al could generate sufficient heat to generate steam. Accordingly, no combination of Daneshvar and Potter et al would have taught those skilled in the art to provide the claimed mask including a heat generating unit which releases steam in conjunction with *oxidation* reaction.


of a metal powder (Claim 1), or heat generating means for generating steam in a main mask body by an exothermic *oxidation* chemical reaction (Claim 15). The claims are therefore believed to clearly define over any combination of the above references.

Concerning paragraph 4 of the Office Action, the term "JIS" refers to "Japanese Industrial Standard," as would be well understood by those skilled in the art. Page 43 of the specification has been amended to use the term "Japanese Industrial Standard."

Applicants therefore believe the present application is in a condition for allowance and respectfully solicit an early Notice of Allowability.

Respectfully submitted,

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IN THE SPECIFICATION

Page 42, please amend the paragraph beginning at line 24 to page 43, line 5 to read as follows:

Also, a bag measuring 8 x 8 cm was fabricated, using a sheet exhibiting a moisture permeability of $8200 \text{ g/m}^2 \cdot 24\text{h}$ (JIS (Japanese Industrial Standard) Z0208 method (40°C, 90% relative humidity)) and an air permeability of 25 seconds/100 cm³ (JIS P8117 method). In this bag was contained 25 g of the exothermic composition noted above to fabricate the steam generating unit 102A, which was sealed in an airtight bag.

IN THE CLAIMS

--1. (Amended) A mask, comprising a heat generating unit incorporated therein, wherein said heat generating unit is configured to generate heat by chemical reaction, wherein said heat generating unit comprises an exothermic composition containing a metal powder, salt, and water, which heat generating unit releases steam in conjunction with oxidation reaction of said metal powder.

3-5. (Cancelled).

10. (Amended) The mask according to claim [5] 1, further comprising a bag containing the exothermic composition, which bag has a surface adapted to be applied to a face, and which bag comprises a moisture permeable sheet exhibiting a moisture permeability

between about $1000 \text{ g/m}^2 \cdot 24\text{h}$ and about $13,000 \text{ g/m}^2 \cdot 24\text{h}$ according to JIS Z0208 method under conditions of a temperature of 40°C and relative humidity of 90%, and an air permeability of 200 seconds/100 cm^3 or less according to JIS P8117 method.

11. (Amended) The mask according to any one of claims [1 to 10] 1-2 and 6-10, wherein main mask body is provided with at least one of an inhalation valve and an exhalation valve.

15. (New).--